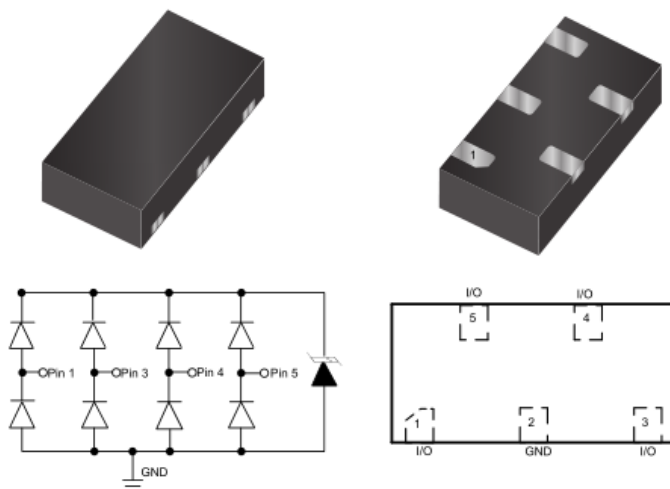


Features

- ◆30Watts peak pulse power ($t_p = 8/20\mu s$)
- ◆DFN 1308 Package
- ◆Protect up to 4-lines
- ◆Solid-state silicon-avalanche technology
- ◆Low clamping voltage
- ◆Low leakage current
- ◆Low capacitance (0.15pF typical I/O to I/O)
- ◆ESD Protection for high-speed data lines to:
IEC 61000-4-2 $\pm 12KV$ contact $\pm 15KV$ air
IEC 61000-4-4 (EFT) 40A (5/50ns)
IEC 61000-4-5 (Lightning) 3A (8/20 μs)



Applications

- ◆USB 3.0/3.1, Type C
- ◆HDMI 1.4/2.0, Display Port 1.3
- ◆Unified Display interface
- ◆Digital visual interface
- ◆Microcontroller Input Protection

Mechanical data

- ◆Case: DFN1308 (plastic package). Lead free; RoHS compliant
- ◆Molding Compound Flammability Rating: UL 94 V-0
- ◆Terminals: High temperature soldering guaranteed: 260 °C/10 sec. at terminals

Absolute Maximum Ratings (Ratings at 25 °C, ambient temperature unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_p=8/20\mu s$)	P_{PP}	30	W
ESD contact/air discharge (IEC-61000-4-2)	V_{ESD}	12/15	kV
Peak Pulse Current ($t_p = 8/20\mu s$)	I_{PP}	3	A
Junction Temperature	T_J	-55 to +125	°C
Storage temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics ($T_A = 25$ °C unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6	7.2	9.5	V
Reverse Leakage Current	I_R	$V_R=5V$		0.1	0.5	μA
Clamping Voltage(SURGE)	V_C	$I_{pp}=3A$, $T_p=8/20\mu s$			10	V
Junction Capacitance	C_J	$V_R=0V$, $f=1MHz$, I/O to I/O		0.15	0.2	pF
	C_J	$V_R=0V$, $f=1MHz$, I/O to GND		0.2	0.25	pF

Typical Characteristics ($T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified)

Fig.1 Peak Pulse Power Rating Curve

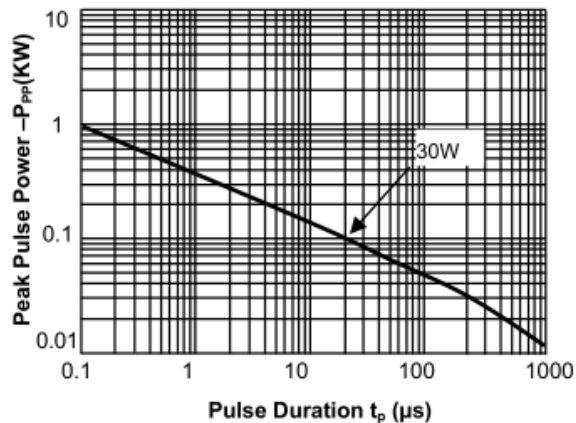


Fig.2 Pulse Derating Curve

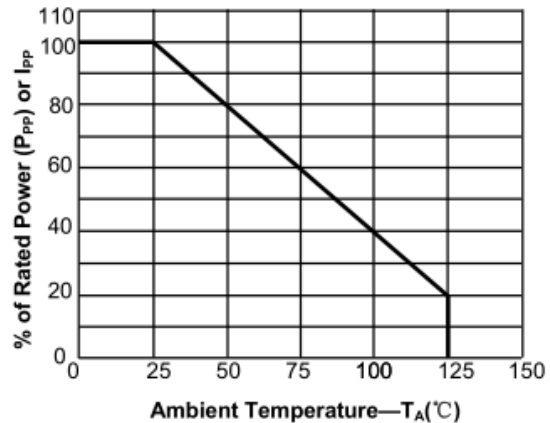


Fig.3 IEC61000-4-2 Waveform

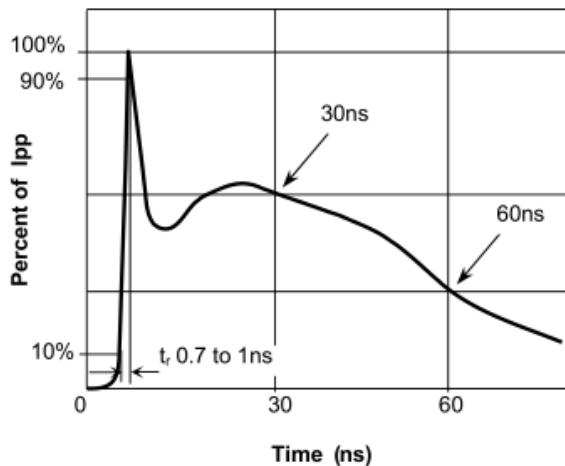


Fig.4 IEC61000-4-2 +8kV Contact ESD Clamping Waveform

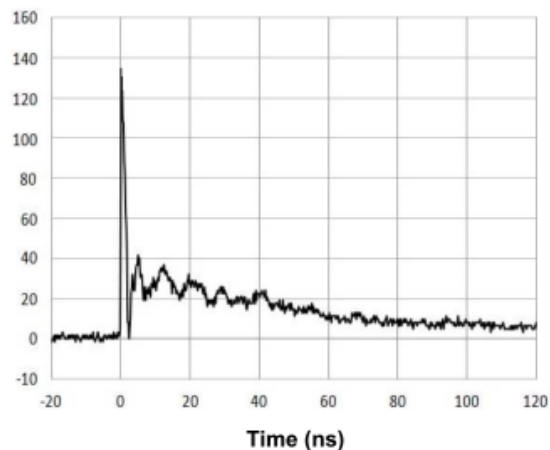


Fig.5 Eye Diagram - USB3.1 at 10Gbps per channel

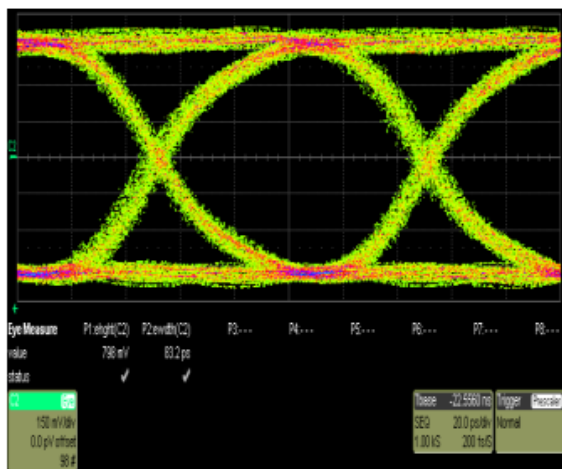
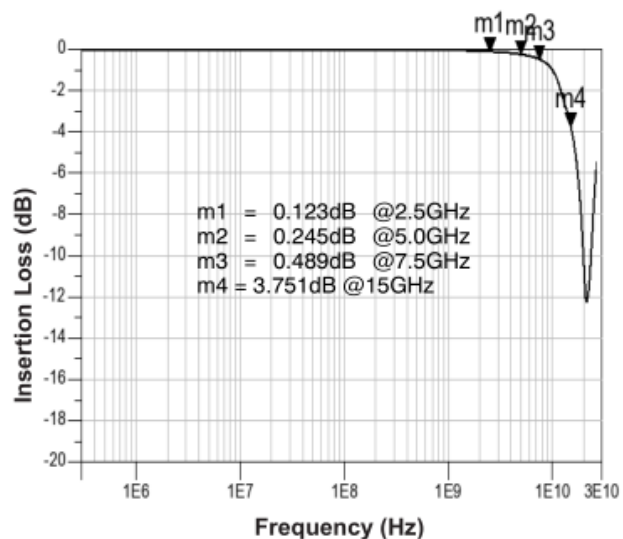
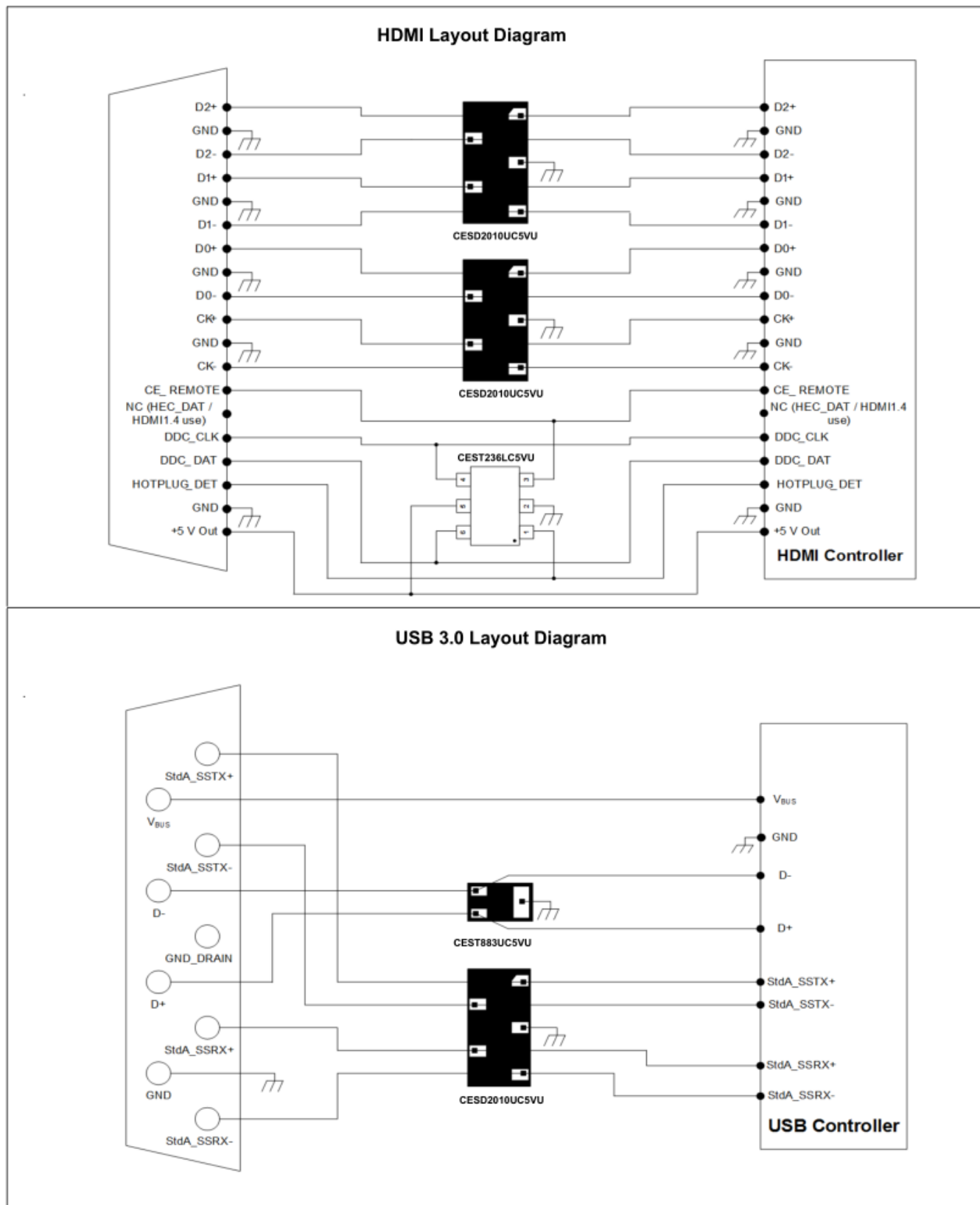


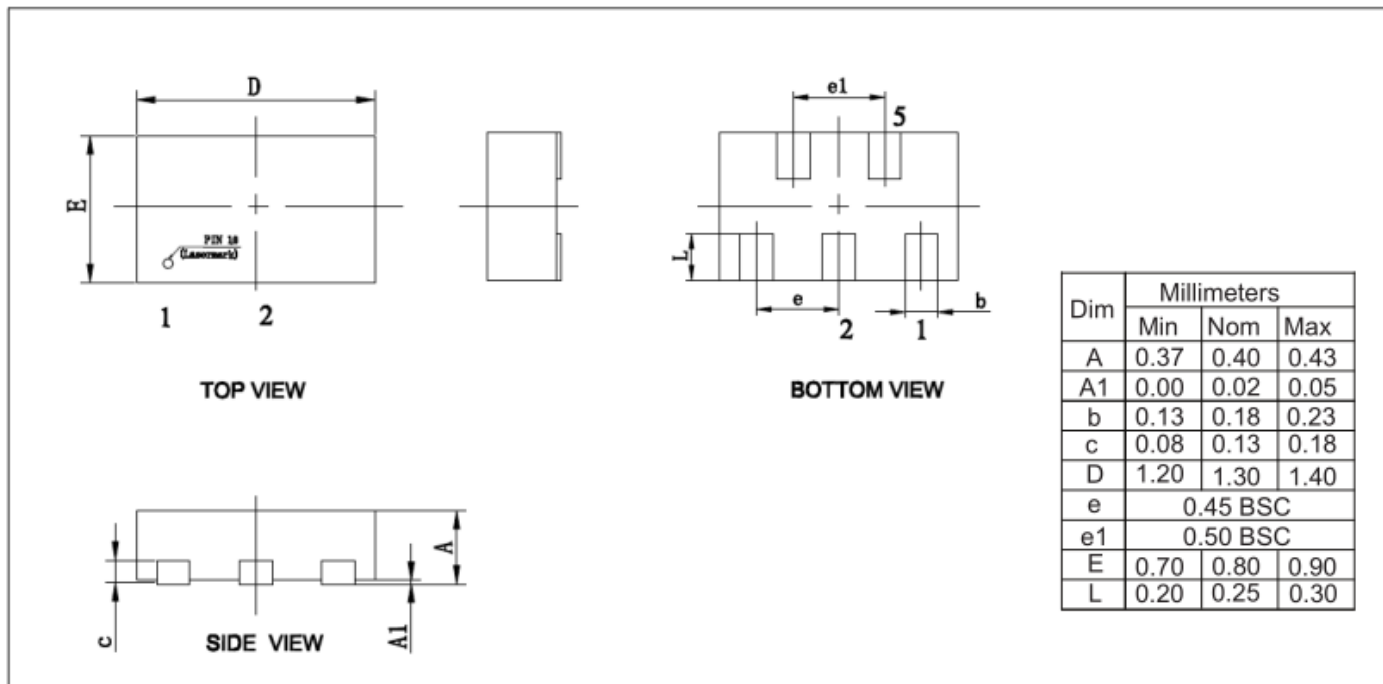
Fig.6 Insertion Loss S21 - I/O to I/O



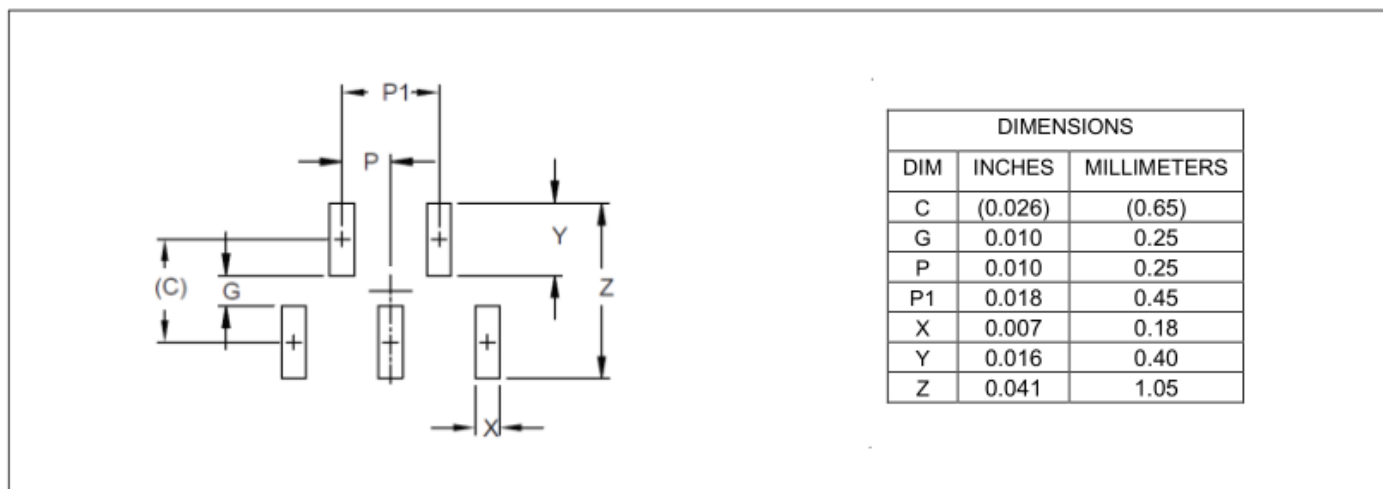
Layout Diagrams



Package Dimensions



PAD Dimensions



Ordering information

Order code	Marking	Package	Packaging option	Base quantity	Packaging specification
CESD1308UC5VUS	5UL	DFN1308	Tape and reel	3000pcs / reel	EIA STD RS-481